State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawaii 96813

February 25, 2011

Board of Land
and Natural Resources
Honolulu, Hawaii

Request for Approval to Enter into a New FY12 Federally Funded Project Agreement for $465,000 between the Board of Land and Natural Resources (BLNR) and the Research Corporation of the University of Hawaii (RCUH) for a Division of Aquatic Resources Project Titled "Investigation of Estuarine Habitats"

Submitted herewith for your consideration is a request to enter into a new Project Agreement between the BLNR and RCUH. The Project Agreement titled "Investigation of Estuarine Habitats" will run from July 1, 2011 through June 30, 2012. The Project Agreement provides $465,000 in Federal funds from the U.S. Fish and Wildlife Service's Sport Fish and Wildlife Restoration Program. No State General Funds are being used. The BLNR/RCUH Project Agreement will allow the Division of Aquatic Resources (DAR) to utilize the services of RCUH to implement the project. RCUH's assistance is required in order for DAR to meet project goals and objectives in a timely way.

The focus of this project will be to determine if estuaries provide functional nursery habitat for coastal fish species and if measures are necessary to protect these resource areas. Healthy habitat is essential to healthy fish populations. Like many fisheries of the world, habitat destruction and alteration in Hawaii is an on-going concern. Most impacted, but least studied, is the stream-ocean interface, know as the estuarine ecosystem. These areas are characterized by the mixing of fresh and sea waters and often have an abundance of juvenile fish species. Thus, it appears that the estuaries serve as nursery grounds for many coastal recreational fish species such as the *aholehole, moi, kumu, ama'ama,and papio*. Unfortunately, very little is understood about the role and dynamics of the estuary habitat to fish production; and of concern is that estuaries are frequently being altered by upland sedimentation and stream diversion, and this may be contributing, in part, to the decline of recreational sport fish species. Notwithstanding is the threat of climate change with concomitant alteration of rainfall patterns.

This project will investigate the attributes of a functioning nursery area and identify the role of the estuary as recreational game fish nursery sites. Long-term monitoring of select estuary sites will be conducted to determine inter-annual recruitment variations. Focused field-research and monitoring will be conducted to identify, enhance and protect this ecosystem with special attention to the importance of estuaries as a fish nursery, a gateway between the watershed and the ocean, and as sentinel to both surface and groundwater flow. An acoustic tagging program will track movement of juvenile game fishes from estuary to coastal areas. Sampling stations will be monitored at selected estuaries to collect and summarize data on vital early history

information such as biodiversity, size and time of recruitment, growth, habitat and water quality parameters, and to determine optimal habitat for recruiting animals. Geographical distribution of fish species will be described, enumerating habitat specific densities and seasonality, identifying habitat related measure of growth and survival. Bathymetric characterization and physiochemical parameters at established study sites will be conducted, as will be net sampling at various estuarine sites. Findings will be used to characterize the seasonality, species, and size composition of both adult and alien fish species in Hawaii's estuaries.

Approval to enter into the Project Agreement is being requested concurrently from the Governor, through the Department of Budget and Finance for review and approval. Also, the Project Agreements is currently being prepared for submission to the Attorney General's Office for preliminary approval as to form. Due to the uncertainty of the State's fiscal situation, DAR is aware that implementation of the Project Agreement is dependent upon receipt of all required approvals and the availability of funds and that funding restrictions may occur at any time.

RECOMMENDATION:

"That the Board authorize the Chairperson to negotiate and, subject to necessary approvals, enter into a Project Agreement with the Research Corporation of the University of Hawaii for the Investigation of Estuarine Habitats project in FY12."

Respectfully submitted,

ROBERT T. NISHIMOTO
Program Manager

APPROVED FOR SUBMITTAL:

WILLIAM J. AILA, JR.
Interim Chairperson